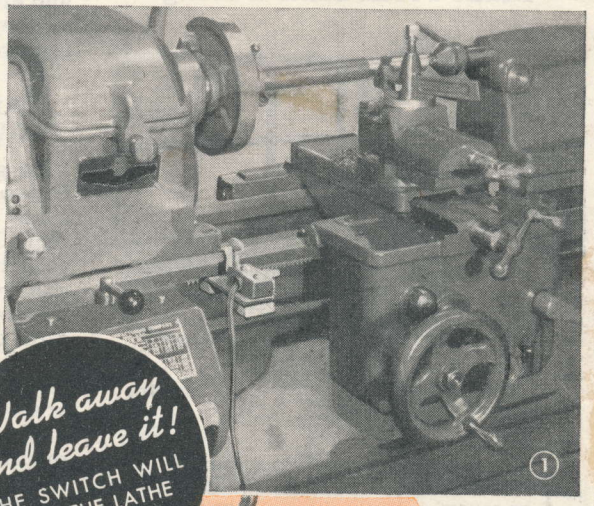
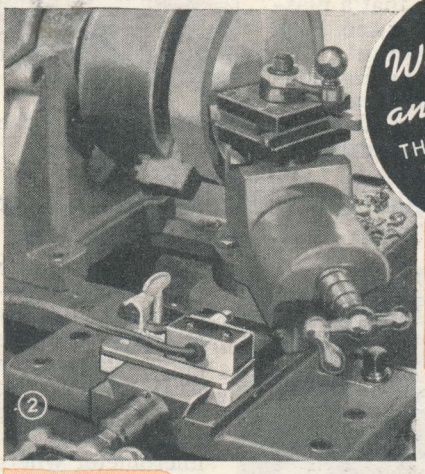
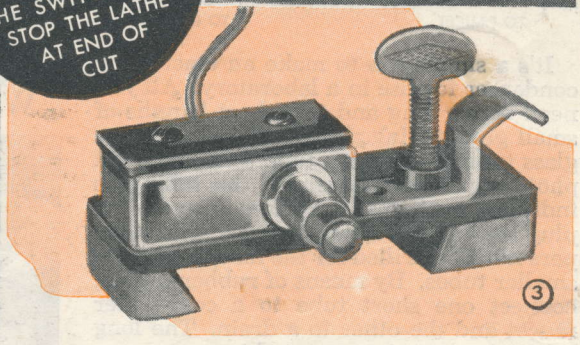
Stop Switch Provides Automatic Lathe Control

Long cuts on a lathe often require several minutes for completion, during which time the operator must remain at the machine. The lathe can be stopped automatically at the end of the cut by using a simple stop switch clamped to the lathe bed as in Fig. 1 or to the carriage as in Fig. 2 to control spindle and faceplate cuts. While almost any type of snap-action switch that breaks contact by pressure on a button can be used, the precision type of micro switch shown in Fig. 3 is recommended. This switch is a snap-action, pin-plunger type that makes positive contact with less than .0005 in. travel, and can be obtained at most electrical supply houses. Actual construction of the switch mounting is simple. As indicated in Fig. 4, a metal bracket clamps to the lathe bed at any point, while a V-bottom piece permits mounting on the cross slide, a thumb screw providing clamping action in either position. Wiring is simply a matter of breaking one of the power leads at the lathe switch. In use, the lathe carriage is moved to the point where the cut is to end, after which the switch is clamped to the lathe bed so that the pushbutton is touching the side of the carriage. Then the carriage is backed off and the cut started. When the side of the carriage contacts the switch, the lathe stops. There is a matter of coasting action to be considered. The switch has an overtravel to take care of this. As far as the work itself is concerned, the coasting action of the average lathe is less than two revolutions, which is negligible at average feed rates. When not in use, the switch is pushed to the headstock end of the bed where it is out of the way. In this position, it is useful as a thumb switch for momentarily stopping the lathe.







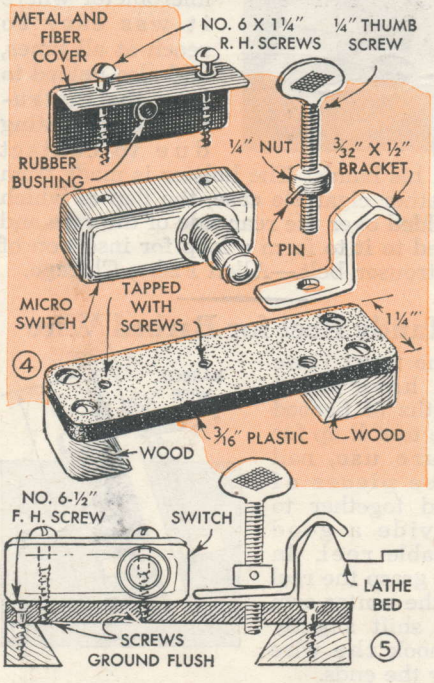


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Fig. 1

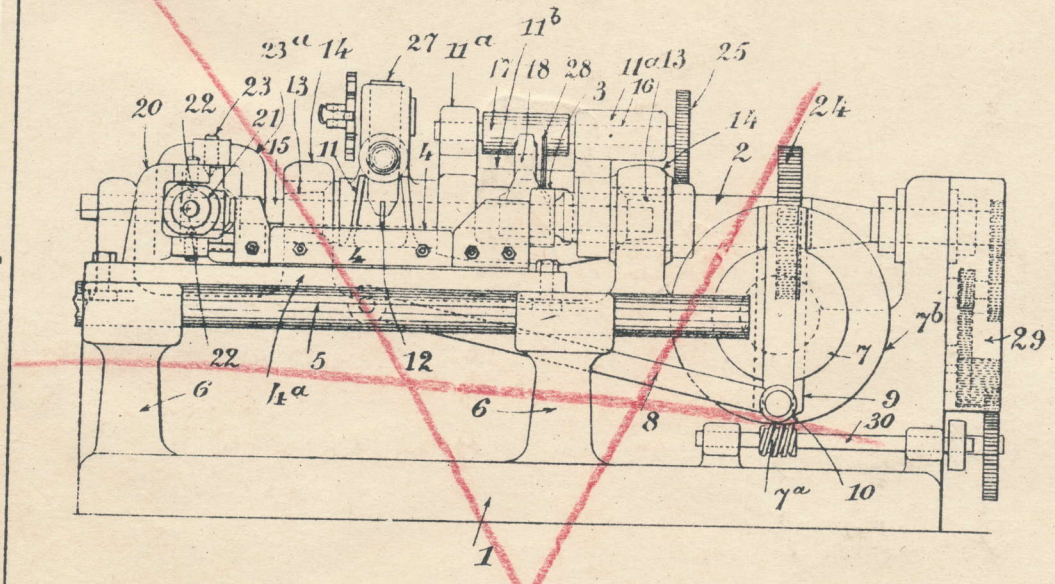
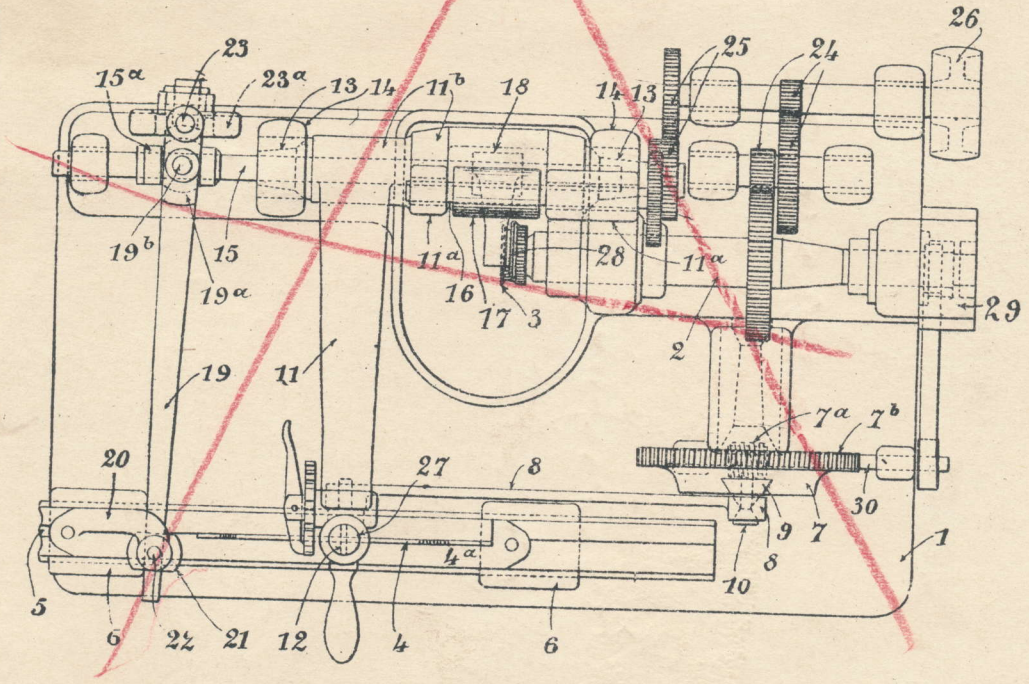
Fig. 2